2 PROJECT OVERVIEW

This section provides an overview of the construction project, identifying the components of the landfill base liner and the parties involved in construction and quality assurance. The remainder of this report describes in greater detail the activities related to construction.

2.1 Construction

Construction of the landfill base liner prepared approximately 8 acres of landfill for refuse placement. Activities included subgrade preparation, liner construction, LCRS installation, and operations layer placement. The liner consists of the following:

- Earthfill placement and preparation of subgrade
- Placement and preparation of 18-inch prepared subgrade
- A geosynthetic clay liner (GCL) placed on the base and side slopes of the module with a permeability less than or equal to 2×10^{-9} centimeters per second (cm/sec)
- A 60-mil-thick, single-sided, textured, high-density polyethylene (HDPE) geomembrane with a co-extruded white, smooth surface over the GCL

The primary LCRS consists of the following:

- Perforated 6-inch-diameter HDPE pipes which drain toward a gravel-filled sump, placed within gravel-filled trenches in the base liner
- Two leachate sumps consisting of gravel placed within an HDPE geomembrane-lined sump with a 12-inch-diameter solid wall HDPE pipe extended from the sump up the west side of the side slope to enable leachate removal
- Solid wall 6-inch-diameter pipe welded to the perforated wall 6-inch-diameter HDPE pipes running from the end of the trench up the perimeter side slope to serve as cleanouts for the primary LCRS
- A 1-foot-thick drainage layer placed over the HDPE geomembrane

- A geotextile filter placed over the drainage layer

A secondary LCRS underlies the primary LCRS to detect any leaks in the primary and present discharge of leachate to the native soils.

The secondary LCRS consists of the following:

- Perforated 3-inch-diameter HDPE pipes, encased in pea gravel and surrounded by drainage layer material, which drain toward a gravel-filled sump, placed within HDPE-lined trenches below the base liner

- Two leachate sumps consisting of drainage material placed within an HDPE geomembrane-lined sump with a 12-inch-diameter solid wall HDPE extractor pipe extending from the sump up the west side of the side slope to enable monitoring

- Solid wall, 3-inch-diameter pipes welded to the perforated 3-inch-diameter HDPE pipes, running from the end of the trench up the perimeter's side slope to serve as cleanouts for the secondary LCRS

A 1-foot-thick base operations layer, composed of on-site soil, was placed over the base drainage layer of the module to protect the underlying components from damage during refuse placement.

A 2-foot-thick side slope operations layer, composed of on-site sandy soils, was placed on the side slopes to protect the underlying liner components and to form a side slope drainage layer with a minimum permeability of 3×10^{-4} cm/sec.

Construction activities for the soil components, geosynthetic clay liner, the geomembrane, and other module components are discussed in Sections 3, 4, 5, and 6, respectively. Construction was based on the following plans issued by EMCON for the Woodville Landfill (see Drawings 1 through 3).

- Drawing 1 Area IB Base Preparation Plan

- Drawing 2 Area IB Sections

- Drawing 3 Area IB Base Liner, Sections, and Details

A reproducible set of these drawings has been revised and identified as Record Drawings to indicate differences between the design plans and actual construction.

Other details of the landfill base liner construction can be found in the document entitled "Special Provisions, Proposal, and Contract for Construction of Area IB Base Liner, Woodville Solid Waste Disposal Site" (County of Tulare, March 1997).